

2 algorithm.

1 24. The method of claim 1, wherein the probability matrix is generated  
2 by a computer.

1 25. The method of claim 1, wherein the constraint vector is an  
2 algorithm.

1 26. The method of claim 1, wherein the constraint vector is generated  
2 by a computer.

1 27. The method of claim 1, wherein the constraint vector is applied to  
2 the probability matrix using a computer.

1 28. The method of claim 1, wherein the probability matrix is  
2 normalized.

1 29. The method of claim 1, wherein the DNA sequence is generated  
2 from DNA shuffling.

1 30. The method of claim 9, further comprising using a DNA sequence  
2 encoding the protein having an increase in the property of interest in a DNA shuffling  
3 process.

1 31. A method of creating a library of DNA sequences, said method  
2 comprising:

3 a) providing a substitution scheme produced by applying a constraint  
4 vector to a probability matrix wherein the substitution scheme recommends substitutions  
5 at at least two residues in a protein of interest; and

6 b) creating a library of DNA sequences incorporating substitutions in  
7 a DNA sequence encoding the protein of interest to create a library comprising the  
8 recommended substitutions.